

RAW SEQUENCE LISTING

**The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.**

Application Serial Number: 10/553,722
Source: P4710
Date Processed by STIC: 10/28/05

ENTERED



PCT

RAW SEQUENCE LISTING

DATE: 10/28/2005

PATENT APPLICATION: US/10/553,722

TIME: 09:25:36

Input Set : A:\BIOL0004USA Sequence Listing.txt

Output Set: N:\CRF4\10282005\J553722.raw

3 <110> APPLICANT: Isis Pharmaceuticals Inc.
 4 Rosanne M. Crooke
 5 Mark J. Graham
 6 Kristina M. Lemonidis
 7 Kenneth W. Dobie
 9 <120> TITLE OF INVENTION: MODULATION OF APOLIPOPROTEIN C-III EXPRESSION
 11 <130> FILE REFERENCE: BIOL0004WO
 C--> 13 <140> CURRENT APPLICATION NUMBER: US/10/553,722
 C--> 13 <141> CURRENT FILING DATE: 2005-10-14
 13 <150> PRIOR APPLICATION NUMBER: PCT/US2004/010946
 14 <151> PRIOR FILING DATE: 2004-04-15
 15 <150> PRIOR APPLICATION NUMBER: US 10/418,780
 16 <151> PRIOR FILING DATE: 2003-04-16
 18 <160> NUMBER OF SEQ ID NOS: 468
 20 <210> SEQ ID NO: 1
 21 <211> LENGTH: 20
 22 <212> TYPE: DNA
 23 <213> ORGANISM: Artificial Sequence
 25 <220> FEATURE:
 27 <223> OTHER INFORMATION: Antisense Oligonucleotide
 29 <400> SEQUENCE: 1
 30 tccgtcatcg ctctcaggg 20
 33 <210> SEQ ID NO: 2
 34 <211> LENGTH: 20
 35 <212> TYPE: DNA
 36 <213> ORGANISM: Artificial Sequence
 38 <220> FEATURE:
 40 <223> OTHER INFORMATION: Antisense Oligonucleotide
 42 <400> SEQUENCE: 2
 43 gtgcgcgcga gcccgaatc 20
 46 <210> SEQ ID NO: 3
 47 <211> LENGTH: 20
 48 <212> TYPE: DNA
 49 <213> ORGANISM: Artificial Sequence
 51 <220> FEATURE:
 53 <223> OTHER INFORMATION: Antisense Oligonucleotide
 55 <400> SEQUENCE: 3
 56 atgcattctg cccccaagga 20
 58 <210> SEQ ID NO: 4
 59 <211> LENGTH: 3958
 60 <212> TYPE: DNA
 61 <213> ORGANISM: H. sapiens
 63 <220> FEATURE:

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65 <400> SEQUENCE: 4

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66 ctactccagg ctgtgttcag ggcttggggc tgggtggaggg agggggcctga aattccagtg      60
68 tgaaaggctg agatggggccc gagggccctg gcctatgtcc aagccatttc ccctctcacc      120
70 agcctctccc tggggagcca gtcagctagg aaggaatgag ggctcccag gccaccccc      180
72 agttcctgag ctcatctggg ctgcagggct ggcgggacag cagcgtggac tcagtctcct      240
74 agggatttcc caactctccc gcccgcttgc tgcattctgga caccctgcct caggccctca      300
76 tctccactgg tcagcagggtg acctttgccc agcgccctgg gtccctcagt cctgctgccc      360
78 tggagatgat ataaaacagg tcagaacctt cctgcctgtc tgcctcagtt atccctagag      420
80 gcagctgctc caggtaatgc cctctgggga ggggaaagag gaggggagga ggatgaagag      480
82 gggcaagagg agctccctgc ccagcccagc cagcaagcct ggagaagcac ttgctagagc      540
84 taaggaagcc tcggagctgg acgggtgccc cccacccctc atcataacct gaagaacatg      600
86 gagggccggg aggggtgtca cttgccc aaa gctacatagg ggggtggggt ggaagtggct      660
88 ccaagtgcag gttccccct cattcttcag gcttaggggt ggaggaagcc ttagacagcc      720
90 cagtcctacc ccagacaggg aaactgaggc ctggagaggg ccagaaatca cccaaagaca      780
92 cacagcatgt tggctggact ggacggagat cagtccagac cgcagggtgc ttgatgttca      840
94 gtctgggtgg ttttctgctc catcccaccc acctcccttt gggcctcgat ccctcgcccc      900
96 tcaccagtcc ccctctgag agcccgctatt agcaggggagc cggccctac tcctctggc      960
98 agaccagct aaggttctac cttaggggccc acgccacctc cccagggagg ggtccagagg      1020
100 catggggacc tggggtgccc ctacaggac acttcccttg aggaacagag gtgccatgca      1080
102 gccccgggta ctcttgttg ttgcccctct ggcgtcctg gcctctgccc gtaagcactt      1140
104 ggtgggactg ggtggggggc aggggtggag caacttgggg atcccagtc caatgggtgg      1200
106 tcaagcagga gccaggggt cgtccatagg ccgatccacc ccactcagcc ctgctcttcc      1260
108 ctcaggagct tcagaggccg aggatgcctc ccttctcagc ttcatgcagg gctacatgaa      1320
110 gcacgccacc aagaccgcca aggatgcact gagcagcgtg caggagtccc aggtggccca      1380
112 gcaggccagg tacaccgct ggccctccct cccatcccc ctgccagctg cctccattcc      1440
114 caccaccccc tgccctgggt agatcccaac aatggaatgg aggtgctcca gcctccctg      1500
116 ggccctgtgc tcttcagcct cctctttcct cacagggcct ttgtcaggct gctgcgggag      1560
118 agatgacaga gttgagactg cattcctccc aggtccctcc tttctcccca gagcagtcct      1620
120 agggcgcgcc gttttagccc tcatttccat tttcctttcc tttcccttcc tttcccttcc      1680
122 tatttcttcc tttctttctt tctttcttcc tttctttctt tctttcttcc tttctttctt      1740
124 tctttcttcc ctttctttct tctttcttcc ctttctttct tctcttctct tctcttctct      1800
126 tctttcttcc tttccttttt ctttctttcc ctctcttctt tctctcttct ctttcttctt      1860
128 cttttttttt taatggagtc tccctctgtc acccaggctg gagtgcagtg gtgccatctc      1920
130 ggctcaactg aacctcgtc tcccgggttc aacctattct cctgcctcag cctcccaagt      1980
132 agctgggatt acaggcacgc gccaccacac ccagctaatt tttgtatttt tagcagagat      2040
134 ggggtttcac catgttgccc aggttgggtc tgaattcctg acctcagggg atcctcctgc      2100
136 ctgggcctcc caaagcgtg ggattacagg catgagccac tgcgcctggc cccattttcc      2160
138 tttctgaag gtctggctag agcagtggtc ctacgccttt ttggcaccag ggaccagttt      2220
140 tgtgggtggc aatttttcca tgggcccagc gggatgggtt tgggatgaag ctgttccacc      2280
142 tcagatcctc aggcattaga ttctcataag gagccctcca cctagatccc tggcatgtgc      2340
144 agttcacaa acgggttcaca ctctatgag aatgtaaggc cacttgatct gacaggaggc      2400
146 ggagctcagg cggatttgct cactcacc caactcactt cgtgctgtgc agcccggtc      2460
148 ctaacagtcc atggaccagt acctatctat gacttggggg ttggggaccc ctgggctagg      2520
150 ggtttgcctt gggaggcccc acctgacctt attcaagccc gtgagtgtct ctgctttgtt      2580
152 ctaagacctg gggccagtgt gagcagaagt gtgtccttcc tctcccatcc tgcccctgcc      2640
154 catcagtact ctctctccc ctactccctt ctccacctca ccctgactgg cattagctgg      2700
156 catagcagag gtgttcataa acattcttag tccccagaac cggctttggg gtaggtgtta      2760
158 ttttctcact ttgcagatga gaaaattgag gctcagagcg attaggtgac ctgccccaga      2820
160 tcacacaact aatcaatcct ccaatgactt tccaatgag aggtgcctc cctctgtcct      2880

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162 accctgctca gagccaccag gttgtgcaac tccaggcggg gctgttttga cagaaaacaa 2940
164 tgacagcctt gacctttcac atctccccac cctgtcactt tgtgcctcag gccagggggc 3000
166 ataaacatct gaggtgacct ggagatggca gggtttgact tgtgctgggg ttcctgcaag 3060
168 gatatctctt ctcccagggt ggcagctgtg ggggattcct gcctgaggtc tcagggtctg 3120
170 cgtccagtga agttgagagg gtgggtgtgt cctgactggg gtcgtccagt ggggacatgg 3180
172 gtgtgggtcc catggttgcc tacagaggag ttctcatgcc ctgctctgtt gcttcccctg 3240
174 actgatttag gggctgggtg accgatggct tcagttccct gaaagactac tggagcaccg 3300
176 ttaaggacaa gttctctgag ttctgggatt tggacctga ggtcagacca acttcagccg 3360
178 tggctgcctg agacctcaat accccaagtc cacctgccta tccatcctgc cagctccttg 3420
180 ggtcctgcaa tctccagggt tggccctgta ggttgcttaa aaggacagc attctcagt 3480
182 ctctcctacc ccacctcatg cctggcccc ctccaggcat gctggcctcc caataaagc 3540
184 ggacaagaag ctgctatgag tgggccgtcg caagtgtgcc atctgtgtct gggcatggga 3600
186 aaggccgag gctgttctgt ggggtgggac tggacagact ccaggtcagg caggcatgga 3660
188 ggccagcgt ctatccacct tctggtagct gggcagtcct tgggcctcag tttcttcac 3720
190 tctaaggtag gaatcaccct ccgtaccctg ccttccttga cagctttgtg cggaagggtca 3780
192 aacaggacaa taagtttctg gatactttga taaactgtta ggtgctgcac aacatgactt 3840
194 gagtgtgtgc cccatgccag ccactatgcc tggcacttaa gttgtcatca gagttgagac 3900
196 tgtgtgtgtt tactcaaaac tgtggagctg acctccccta tccaggccac ctagccct 3958
199 <210> SEQ ID NO: 5
200 <211> LENGTH: 22
201 <212> TYPE: DNA
202 <213> ORGANISM: Artificial Sequence
204 <220> FEATURE:
206 <223> OTHER INFORMATION: PCR Primer
208 <400> SEQUENCE: 5
209 tcagcttcat gcagggttac at 22
212 <210> SEQ ID NO: 6
213 <211> LENGTH: 19
214 <212> TYPE: DNA
215 <213> ORGANISM: Artificial Sequence
217 <220> FEATURE:
219 <223> OTHER INFORMATION: PCR Primer
221 <400> SEQUENCE: 6
222 acgctgctca gtgcatcct 19
225 <210> SEQ ID NO: 7
226 <211> LENGTH: 21
227 <212> TYPE: DNA
228 <213> ORGANISM: Artificial Sequence
230 <220> FEATURE:
232 <223> OTHER INFORMATION: PCR Probe
234 <400> SEQUENCE: 7
235 aagcacgcca ccaagaccgc c 21
238 <210> SEQ ID NO: 8
239 <211> LENGTH: 19
240 <212> TYPE: DNA
241 <213> ORGANISM: Artificial Sequence
243 <220> FEATURE:
245 <223> OTHER INFORMATION: PCR Primer
248 <400> SEQUENCE: 8

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```

249 gaaggtgaag gtcggagtc 19
252 <210> SEQ ID NO: 9
253 <211> LENGTH: 20
254 <212> TYPE: DNA
255 <213> ORGANISM: Artificial Sequence
257 <220> FEATURE:
259 <223> OTHER INFORMATION: PCR Primer
261 <400> SEQUENCE: 9
262 gaagatggtg atgggatttc 20
265 <210> SEQ ID NO: 10
266 <211> LENGTH: 20
267 <212> TYPE: DNA
268 <213> ORGANISM: Artificial Sequence
270 <220> FEATURE:
272 <223> OTHER INFORMATION: PCR Probe
274 <400> SEQUENCE: 10
275 caagcttccc gttctcagcc 20
278 <210> SEQ ID NO: 11
279 <211> LENGTH: 518
280 <212> TYPE: DNA
281 <213> ORGANISM: M. musculus
283 <220> FEATURE:
285 <400> SEQUENCE: 11
286 cctgctcagt tttatcccta gaagcagcta gctactccag gtacgtaggt gccatgcagc 60
288 cccggacgct cctcaactgtg gccctcttgg ctctcctggc atctgcccga gctgaagagg 120
290 tagagggatc cttgctgctg ggctctgtgc agggctacat ggaacaagcc tccaagacgg 180
292 tccaggatgc gctaagtagc gtgcaggagt ccgatatagc tgcggtggcc aggggctgga 240
294 tggacaatca cttcagattc ctgaaaggct actggagcaa gtttactgac aagttcaccg 300
296 gcttctgga ttctaaccct gaggaccaac caactccagc tattgagtcg tgagacttct 360
298 gtgttgca tgtgcctgtt cctccatcct gctgcccccc tccaggcctg ccagggtggc 420
300 cctgaagggt gctttaagg gaaagtatgt tctcatgtct tcacccctcc ctagatctca 480
302 cctaaacatg ctgtccctaa taaagctgga taagaagc 518
304 <210> SEQ ID NO: 12
305 <211> LENGTH: 20
306 <212> TYPE: DNA
307 <213> ORGANISM: Artificial Sequence
309 <220> FEATURE:
311 <223> OTHER INFORMATION: PCR Primer
313 <400> SEQUENCE: 12
314 tgcagggcta catggaacaa 20
317 <210> SEQ ID NO: 13
318 <211> LENGTH: 20
319 <212> TYPE: DNA
320 <213> ORGANISM: Artificial Sequence
322 <220> FEATURE:
324 <223> OTHER INFORMATION: PCR Primer
326 <400> SEQUENCE: 13
327 cggactcctg cacgctactt 20
330 <210> SEQ ID NO: 14

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RAW SEQUENCE LISTING

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Input Set : A:\BIOL0004USA Sequence Listing.txt

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331 <211> LENGTH: 23
332 <212> TYPE: DNA
333 <213> ORGANISM: Artificial Sequence
335 <220> FEATURE:
337 <223> OTHER INFORMATION: PCR Probe
339 <400> SEQUENCE: 14
340 ctccaagacg gtccaggatg cgc                                23
343 <210> SEQ ID NO: 15
344 <211> LENGTH: 20
345 <212> TYPE: DNA
346 <213> ORGANISM: Artificial Sequence
348 <220> FEATURE:
350 <223> OTHER INFORMATION: PCR Primer
352 <400> SEQUENCE: 15
353 ggcaaatcca acggcacagt                                20
356 <210> SEQ ID NO: 16
357 <211> LENGTH: 20
358 <212> TYPE: DNA
359 <213> ORGANISM: Artificial Sequence
361 <220> FEATURE:
363 <223> OTHER INFORMATION: PCR Primer
365 <400> SEQUENCE: 16
366 ggggtctcgct cctggaagat                                20
369 <210> SEQ ID NO: 17
370 <211> LENGTH: 27
371 <212> TYPE: DNA
372 <213> ORGANISM: Artificial Sequence
374 <220> FEATURE:
376 <223> OTHER INFORMATION: PCR Probe
378 <400> SEQUENCE: 17
379 aaggccgaga atgggaagct tgatcatc                        27
382 <210> SEQ ID NO: 18
383 <211> LENGTH: 533
384 <212> TYPE: DNA
385 <213> ORGANISM: H. sapiens
387 <220> FEATURE:
389 <221> NAME/KEY: CDS
390 <222> LOCATION: (47)...(346)
392 <400> SEQUENCE: 18
393 tgctcagttc atccctagag gcagctgctc caggaacaga ggtgcc atg cag ccc    55
394                                     Met Gln Pro
395                                     1
397 cgg gta ctc ctt gtt gtt gcc ctc ctg gcg ctc ctg gcc tct gcc cga    103
398 Arg Val Leu Leu Val Val Ala Leu Leu Ala Leu Leu Ala Ser Ala Arg
399      5          10          15
401 gct tca gag gcc gag gat gcc tcc ctt ctc agc ttc atg cag ggt tac    151
402 Ala Ser Glu Ala Glu Asp Ala Ser Leu Leu Ser Phe Met Gln Gly Tyr
403 20          25          30          35
405 atg aag cac gcc acc aag acc gcc aag gat gca ctg agc agc gtg cag    199

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RAW SEQUENCE LISTING ERROR SUMMARY DATE: 10/28/2005
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:223; N Pos. 53,63

VERIFICATION SUMMARY

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Input Set : A:\BIOL0004USA Sequence Listing.txt

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L:13 M:270 C: Current Application Number differs, Replaced Current Application No

L:13 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:2896 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:223 after pos.:0

L:2898 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:223 after pos.:60